

## CLAIMS

1. A liquid-crystalline medium having a helically twisted structure comprising a nematic component and an optically active component, wherein:

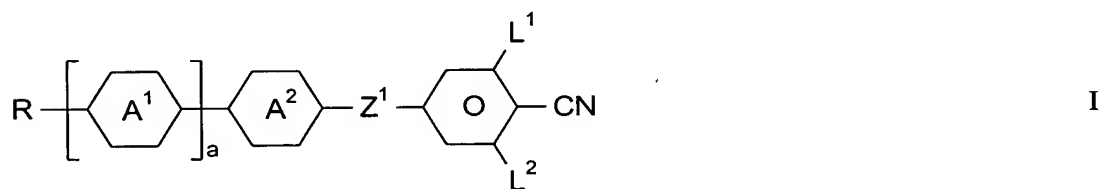
the optically active component comprises one or more chiral compounds whose helical twisting power and concentration are selected in such a way that the helix pitch of the medium is  $\leq 1 \mu\text{m}$ , and

the medium has a birefringence  $\Delta n$  of  $\leq 0.16$ .

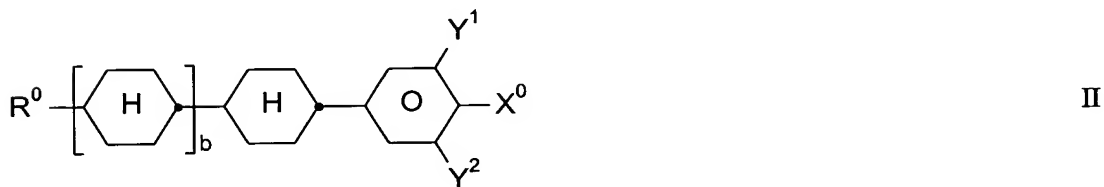
2. A liquid-crystalline medium having a helically twisted structure comprising a nematic component and an optically active component, wherein:

the optically active component comprises one or more chiral compounds whose helical twisting power and concentration are selected in such a way that the helix pitch of the medium is  $\leq 1 \mu\text{m}$ , and

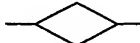
the nematic component comprises one or more compounds of the formula I

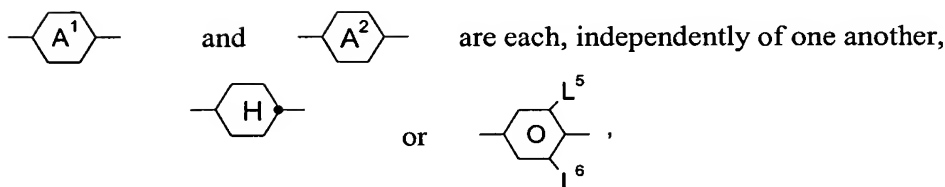


and one or more compounds of the formula II



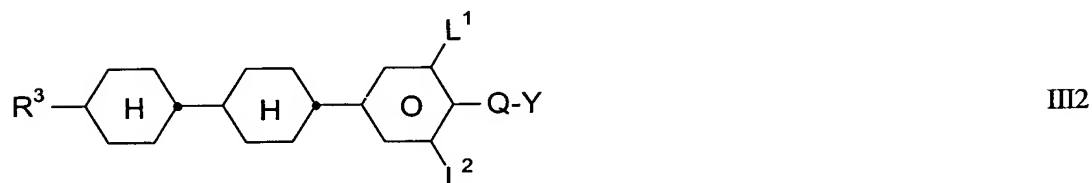
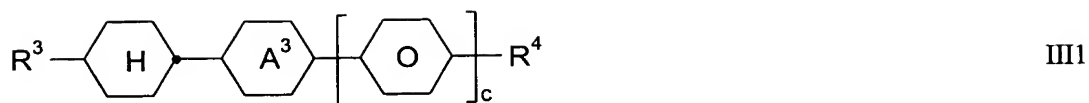
in which

R and R<sup>0</sup> are each, independently of one another, H or an alkyl or alkenyl radical having from 1 to 15 carbon atoms which is unsubstituted, monosubstituted by CN or CF<sub>3</sub> or at least monosubstituted by halogen, where one or more CH<sub>2</sub> groups in these radicals are optionally, independently of one another, replaced by -O-, -S-, , -CO-, -CO-O-, -O-CO-, -O-CO-O- or -C≡C- in such a way that O atoms are not linked directly to one another,



L<sup>1</sup>, L<sup>2</sup>, L<sup>5</sup> and L<sup>6</sup> are each, independently of one another, H or F,  
 Z<sup>1</sup> is -COO- or, if at least one of the radicals A<sup>1</sup> and A<sup>2</sup> is trans-1,4-cyclohexylene, is alternatively -CH<sub>2</sub>CH<sub>2</sub>- or a single bond,  
 Y<sup>1</sup> and Y<sup>2</sup> are each, independently of one another, H or F,  
 X<sup>0</sup> is F, Cl, CN, halogenated alkyl, alkenyl or alkoxy having from 1 to 6 carbon atoms, and  
 a and b are each, independently of one another, 0 or 1.

3. A medium according to Claim 2, with additionally comprises one or more alkenyl compounds selected from the following formulae:



in which

$A^3$  is 1,4-phenylene or trans-1,4-cyclohexylene,

$c$  is 0 or 1,

$R^3$  is an alkenyl group having from 2 to 7 carbon atoms,

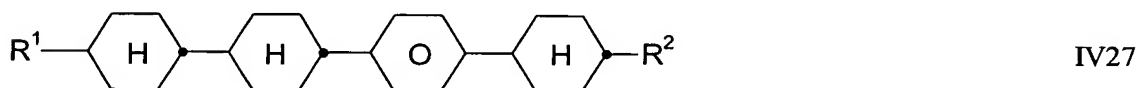
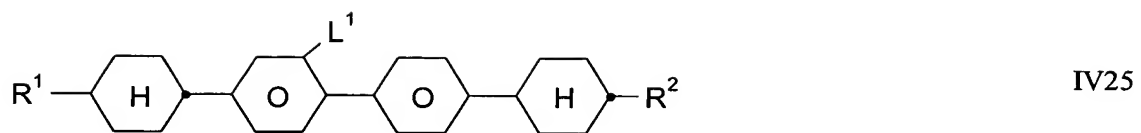
$R^4$  is an alkyl, alkoxy or alkenyl group having from 1 to 12 carbon atoms, in which one or two non-adjacent  $\text{CH}_2$  groups are optionally replaced by  $-\text{O}-$ ,  $-\text{CH}=\text{CH}-$ ,  $-\text{C}\equiv\text{C}-$ ,  $-\text{CO}-$ ,  $-\text{OCO}-$  or  $-\text{COO}-$  in such a way that O atoms are not linked directly to one another,

$Q$  is  $\text{CF}_2$ ,  $\text{OCF}_2$ ,  $\text{CFH}$ ,  $\text{OCFH}$  or a single bond,

$Y$  is F or Cl, and

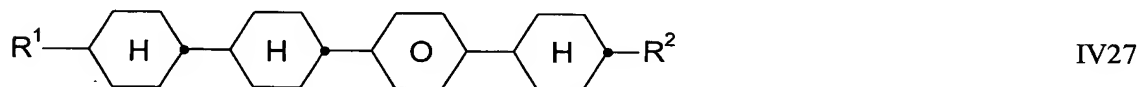
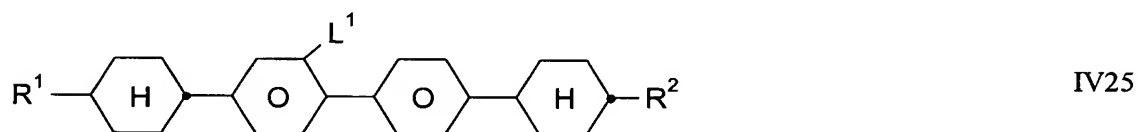
$L^1$  and  $L^2$  are each, independently of one another, H or F.

4. A medium according to Claim 2, which additionally comprises one or more compounds selected from the following formulae:



in which  $R^1$  and  $R^2$  have one of the meanings indicated for R in the formula I, and L is H or F.

5. A medium according to Claim 3, which additionally comprises one or more compounds selected from the following formulae:



in which  $R^1$  and  $R^2$  have one of the meanings indicated for R in the formula I, and L is H or F.

6. A medium according to Claim 2, wherein the proportion of compounds of the formula I in the mixture as a whole is from 7 to 80% by weight.

7. A medium according to Claim 2, wherein the proportion of compounds of the formula II in the mixture as a whole is from 5 to 50% by weight.

8. A medium according to Claim 2, wherein the proportion of the optically active component is from 0.01 to 7%.

9. A medium according to Claim 2, wherein the medium has a reflection wavelength in the range from 400 to 800 nm.

10. A medium according to Claim 2, wherein the medium has a birefringence  $\Delta n$  of  $< 0.16$ .

11. An electro-optical liquid-crystal display containing a liquid-crystalline medium according Claim 1.

12. An electro-optical liquid-crystal display containing a liquid-crystalline medium according Claim 2.

13. An electro-optical liquid-crystal display according to Claim 11, which display is a cholesteric, SSCT, PSCT or flexoelectric display.

14. An electro-optical liquid-crystal display according to Claim 12, which display is a cholesteric, SSCT, PSCT or flexoelectric display.